

Knowledge Sharing and Creation Through Seed Funding

Kristiina Brusila-Meltovaara¹ and Olga Bogdanova²

¹LAB University of Applied Sciences, Lahti, Finland

²LAB University of Applied Sciences, Lappeenranta, Finland

kristiina.brusila-meltovaara@lab.fi

olga.bogdanova@lab.fi

Abstract: Even though international network building is increasingly recognized to be important for research, the use of seed funding as a means of building researchers' collaboration networks prior to actual grand writing network building and knowledge sharing has not been addressed. Research is a knowledge creation and knowledge sharing activity. Networking can increase social capital and thus enhance research productivity of HEI's. International research collaboration networks are important for knowledge production, research productivity, and enhancing innovation capabilities. The enhancement of innovation capabilities is also linked to the mission HEI's have of collaborating and enhancing the local business community in Finland. Innovation capabilities can be seen as innovation drivers, which improve the competitive advantages of a company or specific region. A number of instruments are in place for pure academic networking; however, these differ from seed funding as seed funding in most cases also includes networking outside of academia, e.g., local SME's. This research depicts different seed funding sources used to construct international funding application research networks and also highlights the challenges, which should be addressed when considering this approach. The research question the paper addresses is, how do we best utilize seed funding to enhance knowledge sharing. The paper uses a case study approach presenting a number of successful seed funding research collaboration cases led by LAB University of Applied Science, which have also led to successful research funding applications with international partners. The study highlights possible pitfalls and also challenges encountered during the seed funding research collaboration period. Conclusions as to best practices with regards to utilization of seed funding to enhance knowledge sharing and creation are also presented. The findings emphasize the importance of strategic planning and proactive engagement in building effective research networks.

Keywords: Seed funding, Knowledge creation, Knowledge sharing, Network building

1. Introduction

The importance of network building has been determined as essential for the success of higher education institutions (HEI). (Haley et al, 2024; Huang, 2014) The design of networks promoting research productivity is also seen as important, with interdisciplinary research increasing productivity of researchers. . Academic networking research also suggests that networks can affect academic career success directly through employment, publication, and conference opportunities and simultaneously positioning the networking academic to new emerging trends and current data. (Bogdanova et al, 2022; Heffernan, 2021) Different dimensions of social capital are enhanced by networking (Gonzales-Branbila, 2014), with regard to both the density of the social network or the size of the network. (Barthauer et al, 2016) It has also been shown that social capital significantly impacts collective intelligence, thus investing in social capital enables academia as well as business organizations to share perceptions and perspectives and attain deeper collective thinking. (Al-Omouh, 2022; Meltovaara et al, 2021) Social capital is a critical component of inter-organizational relationships and networks. (Golgeci & Kuivalainen, 2020). Social capital consists of the social networks of relationships, patterns, expectations and beliefs that promote interactive collaboration and coordination for mutual benefits (Putnam et al, 1994). Social capital can thus be seen as the basis and also the driver for networking and collaborative activities of both academia and other organizations and thus enhance and stimulate collaborative innovation as well as collective intelligence. (Al-Omouh, 2022) Knowledge sharing has also been positively associated with innovation capability. (Ganguly et al, 2019) Developing innovation approaches is imperative, and can be undertaken through new collaboration activities. (Makkonen et al, 2023; Leimu & Meltovaara, 2011)

International research collaboration can foster the exchange of knowledge across borders, leading to breakthroughs that would be difficult to achieve in isolation, also research challenges are often viewed as global in nature. (Chankseliani et al, 2021) For researchers, especially within HEIs, building strong networks is essential for driving knowledge production, enhancing research productivity, and strengthening their institutions' competitive edge.(Marginson, 2011; Rosenberg et al, 2023) Despite the recognition of the importance of network building, one critical aspect has remained underexplored: the role of seed funding in establishing these research networks before the onset of larger, more formal grant applications. collaborations foster the exchange of knowledge across borders. This paper describes different types of seed funding and also

provides a case study example of successful international network co-operation fostered by seed funding and aims to provide deeper understanding of how network building, supported by seed funding, can enhance networking and also the broader socio-economic missions of HEIs.

2. Literature Review

The theoretical framework underpinning this study draws on established models of knowledge creation, social capital, and institutional interaction to explore how seed funding supports research collaboration. Central to this perspective is Nonaka's (1994) SECI model, which describes knowledge creation as a dynamic process involving the transformation of tacit and explicit knowledge through four stages: *socialization*, *externalization*, *combination*, and *internalization*. Seed funding, in this context, provides a temporary but strategic environment for initiating the early phases of this process, functioning as a shared context or Ba (Nonaka and Konno, 1998) where ideas can begin to emerge and circulate.

Effective collaboration also depends on the development of social capital: the trust, norms, and shared goals that support knowledge sharing within networks (Nahapiet and Ghoshal, 1998). The formation and durability of these networks, particularly in cross-sectoral partnerships, are shaped by underlying institutional logics (Thornton, Ocasio and Lounsbury, 2012), which can either facilitate or hinder alignment between academic, commercial, and policy actors.

At the interpersonal level, the sharing of tacit knowledge (Polanyi, 1966) often requires co-located interaction and sustained engagement. This is reflected in Wenger's (1998) theory of communities of practice, which emphasizes the importance of mutual engagement and shared practice in fostering meaningful learning. Finally, in evaluating the impact of seed funding, we adopt a systems-oriented view inspired by Sanderson's (2000) framework for assessing policy initiatives in complex environments, highlighting learning and capacity-building as outcomes in their own right, regardless of whether direct funding results are achieved.

3. Methodology

This paper uses a qualitative approach, which is contextual; in other words, the paper represents the viewpoints of specific university representatives: the emotions, prejudices, and motivations of the participants in the context of research, development, and innovation activities of research staff (Gray, 2017). The research question of the study is: How can seed funding be used by HEI's to further successful research proposals? Two approaches were applied in this study: a case study approach and an action research approach. Case studies are adequate and necessary when describing research tasks. The case study method has been applied extensively across fields, particularly in the education field and is an appropriate method to solving complex problems (Montes-Rodríguez et al, 2019; Brusila-Meltovaara & Karppinen, 2025).

The action research approach is a method of systematic inquiry of university lecturers, who act as researchers of their own practice, constantly questioning the practices and methods in use and being active drivers for change. The action research process is frequently described as a cyclical process, as shown in Figure 1.

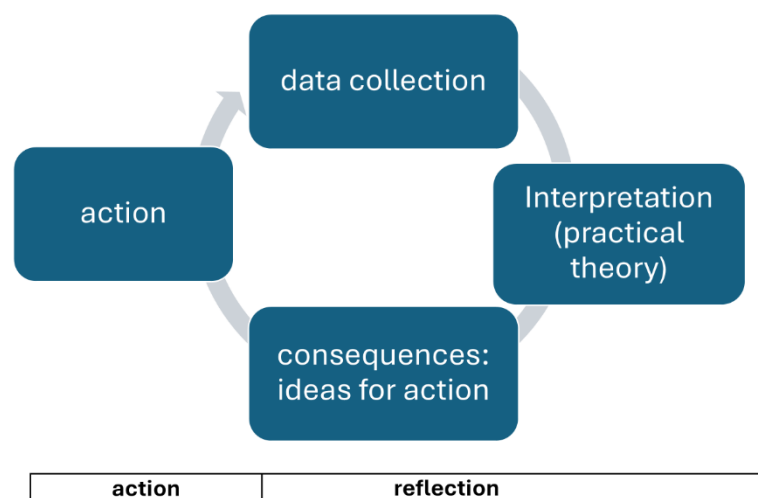


Figure 1: The circle of action and reflection (Altrichter et al. 2007)

Problems, problem-solving abilities, and community are the focus of action research. Action research influences the functions and environment of the researched phenomenon by enhancing and developing the community's problem-solving skills. Engaging actively in the community's practices associated to the research phenomenon is crucial for conducting action research. The process starts with practical actions that yield data through systematically documented observations (Brusila-Meltovaara et al, 2022). This study was undertaken within LAB University of Applied Sciences in Finland and it covers three research grant application cases utilizing seed funding.

4. Case Studies: Seed-Funded Research Collaborations

Three seed funding cases are examined in this paper: the Erasmus+ Alliances for Innovations Baltic Digi tour, the Interreg CB application Entrepreneurial Skills of International Students (ESI) and the interreg BSR application LAB Midas..All three seed funded project did not succeed in obtaining project funding, however they allowed for knowledge sharing and networking, which constructed a base for further co-operation. The three cases, the duration and funder are depicted in Table 1.

Table 1: Seed funding cases

	Baltic Digi tour	ESI	Midas
Project implementation period	01.10.2020-30.09.2021	01.10.2021 – 30.06.2022	01.09.2022-31.12.2023
Funder	Interreg Baltic Sea Region Seed Money	the Regional Council of Päijät-Häme, Supporting Sustainable Growth and Vitality of Regions (AKKE)	Interreg Baltic Sea Region

4.1 Case 1: Baltic DigiTour

The Baltic DigiTour was undertaken for the benefit of touristic stakeholders and also to advance the capacity of exploiting digitalization in the field of touristic attractions. The increased competition over people's free-time, tourism attractions have to enhance digitalization as a mixture of three angles, namely, to bring together IT processes and digital services, digitalized and physically enhanced, thus, holistic guest / visitor experience and digital marketing in order to be attractive and gain visitors. With the seed funding a consortium of ten participants was established as follows:

- LAB University of Applied Sciences, HEI, Finland
- Stralsund University of Applied Sciences, HEI, Germany
- Mecklenburg-Vorpommern Tourist Board, DMO, Germany
- University of Szczecin, HEI, Poland
- National Marine Fisheries Research Institute, tourist attraction, Poland
- Rostock Marketing
- Business Academy North
- Experyment
- University of Dubrovnik
- Lithuanian Sea Museum.

As a result the consortium submitted an international funding application called ComeToLearn, Community-based Methodology in Tourism for interorganizational learning for innovation to the Erasmus+ Alliances for innovation funding programme with a deadline of September 2021.

ComeToLearn focused on the development of inter-organizational social learning formats for continuing professional development. The development was undertaken to ensure resilience, quality, and innovativeness with the example of the tourism sector. Technological development brings about changes to the tourism sector at a high speed, creating a need for digital transformation which is complex, ever-changing and uncertain. Consequently, new knowhow and skills are needed to support the transformation needs continuing professional development (CPD). While vocational training institutes and universities provide formal educational programmes and a variety of MOOCs and other material e.g. by the NGT Alliance is available, the power of social learning with peers in a connectivity approach could add to CPD motivation and quality.

A study with tourism professionals from businesses, DMOs and educators in 2021 in the Baltic Sea Region (n=244) showed the preferred learning modes of online, self-paced learning but an equal appreciation of social, peer-to-peer learning and learning by doing. While the study proved high interest in joining an online learning community on digital transformation with various interests of contribution, the roles, processes, and artefacts needed to benefit both professionals and students in this industry of micro, small and medium-sized enterprises would benefit from a best-practice guide, which this project aims to develop: a Community-based Methodology in Tourism for inter-organizational learning for Innovation. Focusing on the development of digital and managerial skills in an approach of continuing professional development the project implements various modes of managerial skills in an approach of continuing professional development the project implements various modes of community-based learning of students and professions in an action research approach in three pilot communities. These pilots are accompanied by a course qualifying learning community managers for establishing and guiding the communities. The pilots are accompanied by continuous evaluation to build towards the transferable methodology for inter-organizational community-based learning. (Marx et al. 2021) Challenges and lessons learned from this seed funded project where that managing interdisciplinary collaboration and balancing academic and business objectives needs to be paid special attention to. The submitted proposal did not obtain funding and the consortia was not strong enough to apply again.

4.2 Case 2: ESI - Entrepreneurial Skills of International Students

Finland requires an increasing number of skilled workers from abroad to sustain labor availability, regional vitality, and competitiveness due to its own demographic development. Accelerating integration and employment of immigrants is crucial for economic sustainability. The availability of skilled professionals has been recognized as a major challenge for business growth and internationalization. The project aimed to prepare an international consortium and develop a project proposal to improve entrepreneurial skills among international students. The main applicant was LAB University of Applied Sciences.

A consortium was created consisting of four universities all in different countries: LAB University of Applied Sciences, HEI, Finland, Tallinn University of Technology, HEI, Estonia, Riga Technical University, HEI, Latvia and Mid Sweden University, HEI, Sweden. An International funding application called QUEST - Co-create your entrepreneurial future in a dynamic community was submitted to the Interreg Central Baltic programme with a deadline in March 2022.

The proposal entailed enhancing employment opportunities through entrepreneurship. Young educated people are faced with lack of employment opportunities and leave the regions in search of work. This is a common challenge the QUEST project consortium identified for the entire Central Baltic Region. Entrepreneurship is a viable alternative to employment. With an entrepreneurial mindset and attitudes, creative skills can be utilized to establish start-ups, develop business, make use of knowledge existing in ecosystems and create new connections between businesses and individuals. The QUEST project was set up to develop and implement an international practical entrepreneurship training programme aimed at empowering the entrepreneurial skills of young people, including international students. The programme was to be constructed through joint educational modules, simulations and international boot camps. The training programme was to be supported by establishing and clarifying existing collaboration channels, such as building new multidisciplinary student teams and further developing professional networks. This development can be seen to enhance integration of young people into the professional ecosystems. Suggested online learning and collaborative environments enable accessibility of the learning materials to the project target groups and beyond. Besides, online community management enables the creation of international entrepreneurial teams, and this is further supported by international events. (Bogdanova & Rantanen 2024).

The consortium created additional project ideas and submitted two project proposals for Interreg Central Baltic in 2024. Also the networking arranged a visit was for a group of staff from LAB to Tallin Technical University. Challenges and lessons learned from this seed funded project were that this seed funding partnership created other project ideas and consequently two other project proposals were submitted for the Interreg Central Baltic funding application in 2024. The actual seed funded project proposal did not get funding.

4.3 Case 3: LAB Midas

The Project was a preparatory project focusing on establishing how the lessons learned from projects implemented through different funding sources in the Baltic Sea Region could better be utilized in the development work of regions, businesses, and associations. The study examined the need for an event focused

on projects in the Baltic Sea Region. The event would showcase project results, best practices, and lessons learned from various countries in a clear and accessible format for businesses and other organizations. The planned event would function as a "Slush!" for projects, where completed projects of the year present their outcomes to a broader audience. The proposed venue for the event was Lahti. The tentative themes for the event were: low carbon solutions, circular economy and digitalization.

A key aspect of the project was also the training for how to effectively communicate project results to different target groups ("elevator pitch"). The training was aimed at research and organizational staff. Additionally, a digital platform will be proposed to be piloted as a means to expand project visibility through short video presentations. The key actions of the project proposal were to map project actors and projects in the the Baltic Sea Region (BSR), create a collaboration network and planning joint activities and prepare a joint funding application for the IR-BSR call in early 2023. One of the key achievements was the creation of the consortium, which consisted of eleven main and fourteen associate partners shown in Table 2 and 3.

Table 2: LAB Midas main partners

Main Partners	Country	Type of institution
LAB University of Applied Sciences (Lab-ammattikorkeakoulu Oy)	Finland	Higher education and research institution
Aarhus University (Aarhus Universitet) -	Denmark	Higher education and research institution
Riga Technical University (Rīgas Tehniskā universitāte) -	Latvia	Higher education and research institution
Tallinn University of Technology (Tallinna Tehnikaülikool)	Estonia	Higher education and research institution
Kaunas Science and Technology Park (Kauno mokslo ir technologijų parkas)	Lithuania	Business support organization
University of Agder (UiA) (Universitet i Agder)	Norway	Higher education and research institution
Hanse-Parlament e.V.	Germany	Business support organization
Skåne Food Innovation Network (SFIN) (Livsmedelsakademin) -	Sweden	Interest group
Kaunas University of Technology (Kauno technologijos universitetas)	Lithuania	Higher education and research institution
Warmia and Mazury Regional Development Agency (Warmińsko-Mazurska Agencja Rozwoju Regionalnego S.A.)	Poland	Sectoral agency

Table 3: MIDAS Associate partners

Associate Partner	Country	Type of institution
The Regional Council of Päijät-Häme (Päijät-Hämeen liitto)	Finland	Regional public authority
Baltic Institute of Finland (Suomen Itämeri-instituutti)	Finland	NGO
Kaunas IN	Lithuania	Sectoral agency
Association of Technology and Innovation Business Support (Technologijų ir inovacijų paramos verslui asociacija)	Lithuania	NGO
University of Applied Science (BHH) (Berufliche Hochschule Hamburg) -	Germany	Higher education and research institution
Free and Hanseatic City of Hamburg, Senate Chancellery (Freie und Hansestadt Hamburg, Senatskanzlei)	Germany	Local public authority

Associate Partner	Country	Type of institution
Varodd Utvikling AS - Norway (Education/training centre and school)	Norway	Education/training centre and school
Latvian Chamber of Commerce and Industry (Latvijas Tirdzniecības un Rūpniecības kamera)	Latvia	Business support organisation
Tallinn Science Park Tehnopol Foundation SA (Tallinna Teaduspark Tehnopol)	Estonia	Infrastructure and public service provider
University of Warmia and Mazury (Uniwersytet Warmiński - Mazurski)	Poland	Higher education and research institution
Hamburg Investment and Development Bank (Investitions- und Förderbank Hamburg)	Germany	Business support organisation
Latvian Council of Science (Latvijas Zinātnes padome)	Latvia	National public authority
Region Skåne	Sweden	Infrastructure and public service provider
Invest Skåne	Sweden	Business support organisation

The associated partners contributed to the project by supporting innovation ecosystems, facilitating collaboration, providing expertise, and enhancing the visibility of research and business networks in the Baltic Sea Region. The overall objective of the project was to enhance the resilience of SMEs in the Baltic Sea Region by democratizing access to the results of RDI projects. The project sought to address key challenges and barriers that SMEs face in accessing the results of RDI projects and to develop practical solutions to help SMEs overcome these challenges. Ultimately, the project aimed to create a more connected and collaborative innovation ecosystem in the BSR that can support the growth and resilience of SMEs in the region.

Key achievements included the construction of the consortium and the submission of the International funding application to the Baltic Sea Innovation Forum - Improving SMEs Resilience with Shared Results of Publicly Funded RDI Projects. The project idea was communicated at the matchmaking platform: <https://matchmaking.interreg-baltic.eu/landingpage/>. Because of this, LAB was invited to participate in another project proposal for the Interreg Baltic Sea call. The project BSO4CE - Building Capacities and Skills for Circular Economy Coaches was submitted in 2024 but didn't receive funding. The project aimed to contribute to the 'Increase Prosperity' goal by improving SME competitiveness and compliance with the green transition, particularly in rural areas.

5. Comparative Synthesis of the Cases

The three seed-funded case studies presented, namely, Baltic DigiTour, Entrepreneurial Skills of International Students (ESI), and LAB Midas, offer important insights into how seed funding can be leveraged to initiate cross-border collaborations, but they also expose recurring challenges. A comparative analysis across five key dimensions: objectives, network formation, outcomes, barriers, and legacy, reveals both patterns and divergences, as outlined below.

Table 4: Comparative synthesis

Dimension	Baltic DigiTour	ESI	LAB Midas
Primary Goal	Strengthen tourism sector through digital skills transformation	Improve entrepreneurial skills and integration of international students	Connect and showcase BSR project outcomes; improve SME access to RDI
Sectoral Focus	Tourism / Education	Education / Entrepreneurship	Innovation policy / SME development
Networking outcome	10 partners; HEIs, DMOs, SMEs	4 HEIs in 4 countries	25 partners (11 main, 14 associate); HEIs, NGOs, public sector, SMEs
Cross-Sector Integration	Moderate (academia & tourism stakeholders)	Low (academic only)	High (broad multi-sectoral involvement)
International Scope	Strong (6 countries)	Moderate (Nordic-Baltic)	Very strong (8+ countries)

Dimension	Baltic DigiTour	ESI	LAB Midas
Funding Outcome	Erasmus+ proposal submitted (unsuccessful)	Interreg CB proposal submitted (unsuccessful)	Interreg BSR proposal submitted; spin-off proposal (BSO4CE) also submitted (unsuccessful)
Follow-Up Activities	None; consortium dissolved	2 follow-up proposals in 2024; staff mobility	Further consortia invitations; regional visibility; ongoing networking
Key Challenges	Interdisciplinary coordination; digital-only collaboration; weak follow-up	Unaligned goals; digital engagement	Complex coordination; balancing institutional logics; resource intensity

6. Discussion

This study explored how seed funding supports international research collaboration and knowledge creation through three comparative cases. The findings demonstrate that while seed funding can provide the initial platform for knowledge partnerships, its long-term value depends on how effectively networks are built, aligned, and sustained. Each result is interpreted through relevant theoretical lenses to explain why some collaborations endured and others dissipated.

6.1 The Role of Strategic Alignment and Network Quality as a Mediator of Knowledge Sharing

All three cases, *Baltic DigiTour*, *ESI*, and *LAB Midas*, used seed funding to initiate cross-border partnerships. However, only *LAB Midas* led to sustained engagement, follow-up proposals, and wider institutional visibility. This divergence reflects strategic fit theory and absorptive capacity (Cohen & Levinthal, 1990), which emphasize the need for alignment between project goals, institutional capability, and stakeholder expectations.

In *LAB Midas*, partners shared a clear regional mission and innovation agenda, enabling the project to act as a knowledge “on-ramp” rather than a stand-alone effort. In contrast, *Baltic DigiTour* lacked such coherence, and the collaboration dissolved after the initial failure. These outcomes also reflect Nonaka and Konno’s (1998) concept of *Ba*: a shared space for knowledge creation. Where seed funding created meaningful *Ba* (as in *Midas*), knowledge processes progressed. Where *Ba* was weak or fragmented, the collaboration stalled.

Seed funding’s role in facilitating network formation is a necessary but insufficient condition for impactful collaboration. According to social capital theory (Nahapiet & Ghoshal, 1998), the strength of relational and cognitive ties among participants directly shapes their ability to share and mobilize knowledge. In *LAB Midas*, a broad and well-coordinated network fostered mutual trust and complementary expertise. This created what Wenger (1998) would describe as a nascent community of practice, where participants were united not just by tasks, but by shared meaning and learning trajectories.

In *Baltic DigiTour*, however, the lack of alignment and weak relational capital meant that no community or sustained interaction emerged. This reinforces that networks must be intentionally cultivated; they do not automatically result from co-funding or shared deliverables.

6.2 Tacit Knowledge as Barrier and Beyond Binary Success

The reliance on virtual collaboration during the pandemic limited the socialization and externalization phases of Nonaka’s (1994) SECI model. The sharing of tacit knowledge (Polanyi, 1966): insights, intuitions, and practices that are hard to articulate, depends on trust and embodied interaction. These were constrained in all three cases due to the absence of physical co-presence, limiting opportunities for collective sensemaking and innovation.

Traditional project evaluations often assess seed funding by binary outcomes, namely, whether follow-up funding was secured. However, this study supports a systems-thinking perspective (Sanderson, 2000), emphasizing learning, network resilience, and strategic positioning as equally valid results. Even without securing funding, *ESI* and *LAB Midas* enhanced their institutions’ reputational capital and proposal capabilities.

This is particularly significant for peripheral HEIs like LAB University of Applied Sciences. As argued in regional innovation systems theory (Asheim & Gertler, 2005), seed funding can be a critical mechanism for inserting such institutions into broader knowledge ecosystems, where long-term value lies in accumulated relational and strategic assets, not just project funding.

7. Conclusions

Networking is essential for enhancing research productivity and knowledge production, research productivity and knowledge sharing. Seed funding provides a means to build consortia and allows for international networking in project proposal construction. Belonging to the seed funding consortium often resulted in additional project ideas or in the inclusion of as member of other project proposals, thus knowledge sharing and networking occurred in all three cases presented in the paper.

Challenges and lessons learned from this seed funded projects where that managing interdisciplinary collaboration and balancing academic and business objectives needs to be paid special attention to. Also the projects needs a full time dedicated experiences project manager. International networking is often time-consuming and resource intensive. The effort in international consortia is often greater than in a national consortium and requires significant effort and establish and maintain. Travel and Logistics should also be taken into account even though meetings can be undertaken online, face to face encounters are beneficial to enhance deeper understanding of project partners and also allow visits to different organizations.

Future research should be taken into examining seed funding cases, which have resulted in positive project proposal decisions. By examining those best practice procedures and networking can be highlighted to further ensure future successful seed funded project proposal. Future research should also look at the life span of the consortium set up during the seed funding. This could again establish best practices to building consortia spanning longer than one project proposal.

Ethics declaration: Ethical clearance for the research referred to in this paper was no required.

AI declaration: An AI tool was not used in the submission of this paper.

References

- Al-Omouh, K. S., Ribeiro-Navarrete, S., Lassala, C., & Skare, M. (2022). Networking and knowledge creation: Social capital and collaborative innovation in responding to the COVID-19 crisis. *Journal of Innovation & Knowledge*, 7(2), 100181.
- Altrichter, H., Posch, P. & Somekh, B. (2007) *Teachers Investigate Their Work: An introduction to action research across the professions*, Routledge: London, 2nd edition.
- Barthauer, L., Spurk, D., & Kauffeld, S. (2016). Women's social capital in academia: A personal network analysis. *International Review of Social Research*, 6(4), 195-205.
- Bogdanova, O., & Rantanen, P. (2024). Exploring Complex Landscape: Challenges and Opportunities for International Students and Startup Entrepreneurs with Foreign Backgrounds in Finland. *INTED2024 Proceedings*, 4301-4306.
- Bogdanova, O., Brusila-Meltovaara, K., Ikävalko, M., Kizilova, I., & Kondrashova, E. (2022). Developing curricula as part of cross-border Collaboration between Higher Education Institutions (HEI). *CCBC 2022*, 247.
- Brusila-Meltovaara, K. & Karppinen H. (2025). Building the future: increasing co-creative value with SME's. *INTED2025 Proceedings - 1453-1458* <https://doi.org/10.21125/inted.2025.0454>
- Brusila-Meltovaara, K., Bogdanova, O., Iso-Aho, J., & Vartiainen, P. (2022). Curriculum design through university-industry collaboration project. In *INTED2022 Proceedings* (3557-3562). IATED.
- Chankseliani, M., Qoraboyev, I., & Gimranova, D. (2021). Higher education contributes to local, national, and global development: new empirical and conceptual insights. *Higher Education*, 81(1), 109-127.
- Cohen, W.M. and Levinthal, D.A. (1990) 'Absorptive capacity: A new perspective on learning and innovation', *Administrative Science Quarterly*, Vol. 35, No. 1, pp. 128–152.
- Asheim, B.T. and Gertler, M.S. (2005) 'The geography of innovation: Regional innovation systems', in Fagerberg, J., Mowery, D.C. and Nelson, R.R. (eds) *The Oxford Handbook of Innovation*, Oxford University Press, Oxford, pp. 291–317.
- Ganguly, A., Talukdar, A., & Chatterjee, D. (2019). Evaluating the role of social capital, tacit knowledge sharing, knowledge quality and reciprocity in determining innovation capability of an organization. *Journal of knowledge management*, 23(6), 1105-1135.
- Gölgeci, I., & Kuivalainen, O. (2020). Does social capital matter for supply chain resilience? The role of absorptive capacity and marketing-supply chain management alignment. *Industrial Marketing Management*, 84, 63-74.
- Gonzalez-Brambila, C. N. (2014). Social capital in academia. *Scientometrics*, 101, 1609-1625.
- Haley, A., Alemu, S. K., Zerihun, Z., & Uusimäki, L. (2024). Internationalization through research collaboration. *Educational Review*, 76(4), 675-690.
- Heffernan, T. (2021). Academic networks and career trajectory: There's no career in academia without networks'. *Higher Education Research & Development*, 40(5), 981-994.
- Huang, J. S. (2014). Building Research Collaboration Networks--An Interpersonal Perspective for Research Capacity Building. *Journal of Research Administration*, 45(2), 89-112.

- Leimu, J., & Meltovaara, K. (2011) Business Growth Possibilities through Innovation Processing. *Towards Innovation Pedagogy*, 57- 64.
- Makkonen, P., Siakas, K., Lampropoulos, G., & Brusila-Meltovaara, K. (2023). Open Innovation Maturity in Companies. In *European Conference on Innovation and Entrepreneurship* (Vol. 18, No. 1, pp. 545-551).
- Marginson, S. (2011). Strategizing and ordering the global. In *Handbook on globalization and higher education*. Edward Elgar Publishing.
- Marx, S., Flynn, S., & Kylänen, M. (2021). Digital transformation in tourism: Modes for continuing professional development in a virtual community of practice. *Project Leadership and Society*, 2, 100034.
- Meltovaara, K., Olga, B., & Vuorela, T. (2021). A cross-border collaboration involving SMEs and Universities of Applied Sciences. In *the Cross Cultural Conference 2021 Proceedings* (p. 138).
- Montes-Rodríguez, R., Martínez-Rodríguez, J.B. & Ocaña-Fernández, A. (2019) Case Study as a Research Method for Analyzing MOOCs: Presence and Characteristics of Those Case Studies. in the *Main Scientific Databases. International review of research in open and distance learning* 20, no. 3: 59.
- Nahapiet, J. and Ghoshal, S. (1998) 'Social capital, intellectual capital, and the organizational advantage', *Academy of Management Review*, Vol. 23, No. 2, pp. 242–266.
- Nonaka, I. (1994) 'A dynamic theory of organizational knowledge creation', *Organization Science*, Vol. 5, No. 1, pp. 14–37.
- Nonaka, I. and Konno, N. (1998) 'The concept of "Ba": Building a foundation for knowledge creation', *California Management Review*, Vol. 40, No. 3, pp. 40–54.
- Polanyi, M. (1966) *The Tacit Dimension*, Routledge & Kegan Paul, London.
- Wenger, E. (1998) *Communities of Practice: Learning, Meaning, and Identity*, Cambridge University Press, Cambridge.
- Sanderson, I. (2000) 'Evaluation in complex policy systems', *Evaluation*, Vol. 6, No. 4, pp. 433–454.
- Putnam, R. D. (1994). *Making democracy work: Civic traditions in modern Italy*.
- Rosenbusch, C., Tarazona, M., Lämmlein, B., Gardent, C., Berebulova, A., & Stevens, R. (2023). *Building a European University Consortium: The Case of the U! REKA-Network* (No. 28). Working Papers.
- Thornton, P.H., Ocasio, W. and Lounsbury, M. (2012) *The Institutional Logics Perspective: A New Approach to Culture, Structure and Process*, Oxford University Press, Oxford.